



# Prof Stephen Barrett

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**Thank you for your submission.**

Test executed by user: dongz

Resubmit test

## Testing base protocol.

BEGINNING SOCKET TEST: 2017/12/18 03:35:48am

Connecting to host: 47.94.4.113 port: 9999

## Testing connecting to server.

Socket created.

Attempting to connect to 47.94.4.113:9999

**Connection Successful for host 47.94.4.113 on port 9999.**

Sent HELO Message to Server:

```
HELO BASE_TEST
```

Received Message from server:

```
HELO BASE_TEST
IP:172.17.171.185
Port:9999
StudentID:17313074
```

Message has 5 lines (we expect at least 4).

First String Correct:HELO BASE\_TEST

Second string is correct form IP:XXXX.

Second string does not include server ip address:47.94.4.113

IP string is:

```
172.17.171.185
```

**Creating first client connection**

### Testing connecting to server.

Socket created.

Attempting to connect to 47.94.4.113:9999

**Connection Successful for host 47.94.4.113 on port 9999.**

### Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.

Received Message from server: JOINED\_CHATROOM: room1

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 0

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 0

**Server Join Test Success**

### Testing join message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT: 0

Room Ref is correct: 0

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

```
client1 has joined this chatroom.
```

**Server join message received successfully.**

## Testing Leaving

### Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

```
LEAVE_CHATROOM: 0
JOIN_ID: 0
CLIENT_NAME: client1
```

**Send succeeded.**

Received Message from server:

```
LEFT_CHATROOM: 0
```

Room Ref is correct: 0

JOIN ID is correct: 0

**Leave Test Successful.**

### Testing for receipt of leaving message regarding client1 (Socket Resource id #7)

Received Message from server:

```
CHAT: 0
```

Room Ref is correct: 0

Client name has correct form: client1

Full message received:

```
client1 has left this chatroom.
```

**Receipt of message successful.**

## Test join multiple rooms

### Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.

Received Message from server: JOINED\_CHATROOM: room1

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 0

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 1

**Server Join Test Success**

### Testing join message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT: 0

Room Ref is correct: 0

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

```
client1 has joined this chatroom.
```

**Server join message received successfully.**

### Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.

Received Message from server: JOINED\_CHATROOM: room2

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room2

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 1

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 1

**Server Join Test Success**

### Testing join message regarding client1. (Socket Resource id #7)

Recieved Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message recieved:

```
client1 has joined this chatroom.
```

**Server join message recieved successfully.**

## Test leaving multiple chatrooms

### Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

```
LEAVE_CHATROOM: 0  
JOIN_ID: 1  
CLIENT_NAME: client1
```

**Send succeeded.**

Recieved Message from server:

```
LEFT_CHATROOM: 0
```

Room Ref is correct: 0

JOIN ID is correct: 1

**Leave Test Successful.**

### Testing for receipt of leaving message regarding client1 (Socket Resource id #7)

Recieved Message from server:

```
CHAT: 0
```

Room Ref is correct: 0

Client name has correct form: client1

Full message recieved:

```
client1 has left this chatroom.
```

**Receipt of message successful.**

### Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

```
LEAVE_CHATROOM: 1
JOIN_ID: 1
CLIENT_NAME: client1
```

**Send succeeded.**

Received Message from server:

```
LEFT_CHATROOM: 1
```

Room Ref is correct: 1

JOIN ID is correct: 1

**Leave Test Successful.**

**Testing for receipt of leaving message regarding client1 (Socket Resource id #7)**

Received Message from server:

```
CHAT: 1
```

Room Ref is correct: 1

Client name has correct form: client1

Full message received:

```
client1 has left this chatroom.
```

**Receipt of message successful.**

## Testing multiple clients with single room

**Testing joining server by client1. (Socket Resource id #7)**

Send Succeeded. Testing response.

Received Message from server: JOINED\_CHATROOM: room1

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 0

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 2

**Server Join Test Success**

**Testing join message regarding client1. (Socket Resource id #7)**

Received Message from server: CHAT: 0

Room Ref is correct: 0

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

```
client1 has joined this chatroom.
```

**Server join message recieved successfully.**

Creating second client connection

**Testing connecting to server.**

Socket created.

Attempting to connect to 47.94.4.113:9999

**Connection Successful for host 47.94.4.113 on port 9999.**

**Testing joining server by client2. (Socket Resource id #8)**

Send Succeeded. Testing response.

Recieved Message from server: JOINED\_CHATROOM: room1

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 0

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 3

**Server Join Test Success**

**Testing join message regarding client2. (Socket Resource id #7)**

Recieved Message from server: CHAT: 0

Room Ref is correct: 0

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message recieved:

```
client2 has joined this chatroom.
```

**Server join message recieved successfully.**

**Testing join message regarding client2. (Socket Resource id #8)**

Recieved Message from server: CHAT: 0

Room Ref is correct: 0

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message recieved:

```
client2 has joined this chatroom.
```

**Server join message recieved successfully.**

**Test multiple clients leaving one room**

### Testing leaving on chatroom by client2. (Socket Resource id #8)

Sending Message to Server:

```
{
  LEAVE_CHATROOM: 0
  JOIN_ID: 3
  CLIENT_NAME: client2
}
```

**Send succeeded.**

Received Message from server:

```
{
  LEFT_CHATROOM: 0
}
```

Room Ref is correct: 0

JOIN ID is correct: 3

**Leave Test Successful.**

### Testing for receipt of leaving message regarding client2 (Socket Resource id #8)

Received Message from server:

```
{
  CHAT: 0
}
```

Room Ref is correct: 0

Client name has correct form: client2

Full message received:

```
{
  client2 has left this chatroom.
}
```

**Receipt of message successful.**

### Testing for receipt of leaving message regarding client2 (Socket Resource id #7)

Received Message from server:

```
{
  CHAT: 0
}
```

Room Ref is correct: 0

Client name has correct form: client2

Full message received:

```
{
  client2 has left this chatroom.
}
```

**Receipt of message successful.**

### Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

```
{
  LEAVE_CHATROOM: 0
  JOIN_ID: 2
  CLIENT_NAME: client1
}
```

**Send succeeded.**

Received Message from server:

```
{
  LEFT_CHATROOM: 0
}
```

Room Ref is correct: 0  
JOIN ID is correct: 2  
**Leave Test Successful.**

### **Testing for receipt of leaving message regarding client1 (Socket Resource id #7)**

Received Message from server:

```
CHAT: 0
```

Room Ref is correct: 0  
Client name has correct form: client1  
Full message received:

```
client1 has left this chatroom.
```

**Receipt of message successful.**

## **Testing multiple clients with multiple rooms**

### **Testing joining server by client1. (Socket Resource id #7)**

Send Succeeded. Testing response.  
Received Message from server: JOINED\_CHATROOM: room1  
First string is correct form JOINED\_CHATROOM:XXXX.  
Chatroom name is correct: room1  
Second string is correct form SERVER\_IP:XXXX.  
IP string is valid form: 172.17.171.185  
Third string is correct form PORT:XXXX.  
Port string is valid form: 9999  
Third string is correct form ROOM\_REF:XXXX.  
room\_ref string is valid form: 0  
Third string is correct form JOIN\_ID:XXXX.  
join\_id string is valid form: 4

**Server Join Test Success**

### **Testing join message regarding client1. (Socket Resource id #7)**

Received Message from server: CHAT: 0  
Room Ref is correct: 0  
Clientname is correct: client1  
Message form is correct: client1 has joined this chatroom. Full message received:

```
client1 has joined this chatroom.
```

**Server join message received successfully.**

### **Testing joining server by client2. (Socket Resource id #8)**

Send Succeeded. Testing response.  
Received Message from server: JOINED\_CHATROOM: room1  
First string is correct form JOINED\_CHATROOM:XXXX.



Chatroom name is correct: room1  
Second string is correct form SERVER\_IP:XXXX.  
IP string is valid form: 172.17.171.185  
Third string is correct form PORT:XXXX.  
Port string is valid form: 9999  
Third string is correct form ROOM\_REF:XXXX.  
room\_ref string is valid form: 0  
Third string is correct form JOIN\_ID:XXXX.  
join\_id string is valid form: 5

**Server Join Test Success**

**Testing join message regarding client2. (Socket Resource id #7)**

Recieved Message from server: CHAT: 0  
Room Ref is correct: 0  
Clientname is correct: client2  
Message form is correct: client2 has joined this chatroom. Full message recieved:

```
client2 has joined this chatroom.
```

**Server join message recieved successfully.**

**Testing join message regarding client2. (Socket Resource id #8)**

Recieved Message from server: CHAT: 0  
Room Ref is correct: 0  
Clientname is correct: client2  
Message form is correct: client2 has joined this chatroom. Full message recieved:

```
client2 has joined this chatroom.
```

**Server join message recieved successfully.**

Creating third client connection

**Testing connecting to server.**

Socket created.

Attempting to connect to 47.94.4.113:9999

**Connection Successful for host 47.94.4.113 on port 9999.**

**Testing joining server by client3. (Socket Resource id #9)**

Send Succeeded. Testing response.  
Recieved Message from server: JOINED\_CHATROOM: room1  
First string is correct form JOINED\_CHATROOM:XXXX.  
Chatroom name is correct: room1  
Second string is correct form SERVER\_IP:XXXX.  
IP string is valid form: 172.17.171.185  
Third string is correct form PORT:XXXX.  
Port string is valid form: 9999  
Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 0  
Third string is correct form JOIN\_ID:XXXX.  
join\_id string is valid form: 6

**Server Join Test Success**

**Testing join message regarding client3. (Socket Resource id #7)**

Recieved Message from server: CHAT: 0  
Room Ref is correct: 0  
Clientname is correct: client3  
Message form is correct: client3 has joined this chatroom. Full message recieved:

client3 has joined this chatroom.

**Server join message recieved successfully.**

**Testing join message regarding client3. (Socket Resource id #8)**

Recieved Message from server: CHAT: 0  
Room Ref is correct: 0  
Clientname is correct: client3  
Message form is correct: client3 has joined this chatroom. Full message recieved:

client3 has joined this chatroom.

**Server join message recieved successfully.**

**Testing join message regarding client3. (Socket Resource id #9)**

Recieved Message from server: CHAT: 0  
Room Ref is correct: 0  
Clientname is correct: client3  
Message form is correct: client3 has joined this chatroom. Full message recieved:

client3 has joined this chatroom.

**Server join message recieved successfully.**

**Testing joining server by client1. (Socket Resource id #7)**

Send Succeeded. Testing response.  
Recieved Message from server: JOINED\_CHATROOM: room2  
First string is correct form JOINED\_CHATROOM:XXXX.  
Chatroom name is correct: room2  
Second string is correct form SERVER\_IP:XXXX.  
IP string is valid form: 172.17.171.185  
Third string is correct form PORT:XXXX.  
Port string is valid form: 9999  
Third string is correct form ROOM\_REF:XXXX.  
room\_ref string is valid form: 1  
Third string is correct form JOIN\_ID:XXXX.  
join\_id string is valid form: 4

**Server Join Test Success**

### Testing join message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

```
client1 has joined this chatroom.
```

**Server join message received successfully.**

### Testing joining server by client3. (Socket Resource id #9)

Send Succeeded. Testing response.

Received Message from server: JOINED\_CHATROOM: room2

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room2

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 1

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 6

**Server Join Test Success**

### Testing join message regarding client3. (Socket Resource id #7)

Received Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message received:

```
client3 has joined this chatroom.
```

**Server join message received successfully.**

### Testing join message regarding client3. (Socket Resource id #9)

Received Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message received:

```
client3 has joined this chatroom.
```

**Server join message received successfully.**

Creating fourth client connection

### Testing connecting to server.

Socket created.

Attempting to connect to 47.94.4.113:9999

**Connection Successful for host 47.94.4.113 on port 9999.**

**Testing joining server by client4. (Socket Resource id #10)**

Send Succeeded. Testing response.

Received Message from server: JOINED\_CHATROOM: room2

First string is correct form JOINED\_CHATROOM:XXXX.

Chatroom name is correct: room2

Second string is correct form SERVER\_IP:XXXX.

IP string is valid form: 172.17.171.185

Third string is correct form PORT:XXXX.

Port string is valid form: 9999

Third string is correct form ROOM\_REF:XXXX.

room\_ref string is valid form: 1

Third string is correct form JOIN\_ID:XXXX.

join\_id string is valid form: 7

**Server Join Test Success**

**Testing join message regarding client4. (Socket Resource id #7)**

Received Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client4

Message form is correct: client4 has joined this chatroom. Full message received:

```
client4 has joined this chatroom.
```

**Server join message received successfully.**

**Testing join message regarding client4. (Socket Resource id #9)**

Received Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client4

Message form is correct: client4 has joined this chatroom. Full message received:

```
client4 has joined this chatroom.
```

**Server join message received successfully.**

**Testing join message regarding client4. (Socket Resource id #10)**

Received Message from server: CHAT: 1

Room Ref is correct: 1

Clientname is correct: client4

Message form is correct: client4 has joined this chatroom. Full message received:

```
client4 has joined this chatroom.
```

**Server join message received successfully.**

# Testing Messaging

## Testing the sending of a message from client1

Sending Message

```
CHAT: 0
JOIN_ID: 4
CLIENT_NAME: client1
MESSAGE: hello world from client 1
```

**Send Succeeded.**

## Testing for receipt of message from client1. (Socket Resource id #7)

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client1

Message content is correct:

```
hello world from client 1
```

**Message receipt successful**

## Testing for receipt of message from client1. (Socket Resource id #8)

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client1

Message content is correct:

```
hello world from client 1
```

**Message receipt successful**

## Testing for receipt of message from client1. (Socket Resource id #9)

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client1

Message content is correct:

```
hello world from client 1
```

**Message receipt successful**

## Testing for no receipt of message from client1. (Socket Resource id #10)

**Nothing to read on Resource id #10 socket. This is correct.**

## Testing the sending of a message from client2

Sending Message

```
CHAT: 0
JOIN_ID: 4
```

```
CLIENT_NAME: client2
MESSAGE: hello world from client 2
```

**Send Succeeded.**

**Testing for receipt of message from client2. (Socket Resource id #7)**

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client2

Message content is correct:

```
hello world from client 2
```

**Message receipt successful**

**Testing for receipt of message from client2. (Socket Resource id #8)**

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client2

Message content is correct:

```
hello world from client 2
```

**Message receipt successful**

**Testing for receipt of message from client2. (Socket Resource id #9)**

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client2

Message content is correct:

```
hello world from client 2
```

**Message receipt successful**

**Testing for no receipt of message from client2. (Socket Resource id #10)**

**Nothing to read on Resource id #10 socket. This is correct.**

**Testing the sending of a message from client3**

Sending Message

```
CHAT: 0
JOIN_ID: 6
CLIENT_NAME: client3
MESSAGE: hello world from client 3
```

**Send Succeeded.**

### Testing for receipt of message from client3. (Socket Resource id #7)

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client3

Message content is correct:

```
hello world from client 3
```

**Message receipt successful**

### Testing for receipt of message from client3. (Socket Resource id #8)

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client3

Message content is correct:

```
hello world from client 3
```

**Message receipt successful**

### Testing for receipt of message from client3. (Socket Resource id #9)

Received Message from server: CHAT: 0

Room Ref is correct: 0

clientname is correct: client3

Message content is correct:

```
hello world from client 3
```

**Message receipt successful**

### Testing for no receipt of message from client3. (Socket Resource id #10)

**Nothing to read on Resource id #10 socket. This is correct.**

### Testing the sending of a message from client3

Sending Message

```
CHAT: 1
JOIN_ID: 6
CLIENT_NAME: client3
MESSAGE: hello world from client 3
```

**Send Succeeded.**

### Testing for receipt of message from client3. (Socket Resource id #7)

Received Message from server: CHAT: 1

Room Ref is correct: 1

clientname is correct: client3

Message content is correct:

```
hello world from client 3
```

**Message receipt successful**

**Testing for receipt of message from client3. (Socket Resource id #9)**

Received Message from server: CHAT: 1

Room Ref is correct: 1

clientname is correct: client3

Message content is correct:

```
hello world from client 3
```

**Message receipt successful**

**Testing for receipt of message from client3. (Socket Resource id #10)**

Received Message from server: CHAT: 1

Room Ref is correct: 1

clientname is correct: client3

Message content is correct:

```
hello world from client 3
```

**Message receipt successful**

**Testing for no receipt of message from client3. (Socket Resource id #8)**

**Nothing to read on Resource id #8 socket. This is correct.**

## Testing Disconnections

**Testing sending message to server by client1. (Socket Resource id #7)**

Sending Message to Server:

```
DISCONNECT: 0
```

```
PORT: 0
```

```
CLIENT_NAME: client1
```

**Send Succeeded.**

**Testing for receipt of disconnection message regarding client1. (Socket Resource id #7)**

**ERROR: Server response is empty: Connection reset by peer**

Sending Message to server:

```
KILL_SERVICE
```

Succeeded.

Your server should have shutdown...we will now test.

Host socket disconnected as expected.

**Tests Complete**



All tests passed

**Grade: 74** = round( (50 / 75) \* 20 + (1275 / 1755) \* 70 + (25 / 25) \* 10)